WE CLAIM:

1. A hot water heating system for heating potable water, said heater being diesel powered and comprising a burner, an exhaust stack carrying hot exhaust emanating from said burner, a water jacket surrounding said burner for carrying potable water and being enclosed by an outer periphery, said exhaust stack running from said burner through said water jacket, said exhaust stack carrying said hot exhaust through said water jacket and discharging said hot exhaust from said outer periphery of said water jacket.

2. A hot water heater as in claim 1 wherein said exhaust stack has a rectangular cross-sectional configuration.

3. A hot water heater as in claim 1 wherein said exhaust stack is circular.

4. A hot water heater as in claim 1 wherein said exhaust makes a single pass through said water jacket before discharge from said outer periphery of said water jacket.

5. A hot water heater as in claim 1 wherein said exhaust makes at least two passes through said water jacket before discharge of said exhaust from said outer periphery of said water jacket.

6. A hot water heater as in claim 1 wherein said exhaust stack contacts said liquid within said water jacket on all sides of said exhaust stack.

7. A hot water jacket as in claim 1 wherein said exhaust stack contacts said liquid within said water jacket on at least one side of said exhaust stack

8. A hot water heating system as in claim 1 wherein said heater is used for boats or vehicles.

9. A hot water heating system as in claim 1 and further comprising operating components associated with said heating system and being located within a housing which housing surrounds said burner, said operating components being located at and accessible from one end of said heating system upon removal of a portion of said housing.

10. A hot water heating system as in claim 9 wherein said operating components include a burner assembly, a compressor, a combustion fan and a fuel pump.

11. A hot water heating system as in claim 10 and further comprising a hot water outlet and a cold water inlet located on said one end of said heating system.

12. A hot water heating system with a burner and operating components associated with said burner, said burner and said operating components being located within a housing, said operating components being located at and accessible form one end of said heating system upon removal of a portion of said housing.

13. A hot water heating system as in claim 12 wherein said operating components include a burner assembly, a compressor, a combustion fan and a fuel pump.

14. A hot water heating system as in claim 13 and further comprising a hot water outlet and a cold water inlet located at said one end of said heating system.

15. A hot water heating system as in claim 1 and further comprising a zone heater operably connected to said hot water heating system through a heat exchanger.

16. A hot water heating system as in claim 1 wherein said potable water is circulated through said heat exchanger by a first pump and wherein coolant is circulated through said zone heater and said heat exchanger by a second pump.

17. A hot water heating system as in claim 16 and further comprising a thermostat operably connected to said zone heater to initiate operation of said zone heater when said thermostat includes a zone temperature below a predetermined value.

18. A hot water heating system as in claim 17 and further comprising a first aquastat associated with said zone heater to initiate and to terminate operation of a fan associated with said zone heater.

19. A hot water heating system as in claim 18 and further comprising an aquastat associated with said potable

water circulated through said heat exchanger, said aquastat terminating operation of said first pump when said aquastat measures a temperature which has fallen below a predetermined value.

20. Method of increasing the temperature of potable water used for human consumption, said potable water being carried in a water jacket surrounding a burner having a peripheral housing and which burner discharges hot exhaust from said peripheral housing, said method comprising conveying said hot exhaust from said burner through said water jacket to said peripheral housing and discharging said hot exhaust from said peripheral housing.

21. Method as in claim 20 wherein said hot exhaust is discharged from said peripheral housing after making one pass through said water jacket.

22. Method as in claim 20 wherein said hot exhaust is discharged from said peripheral housing after making more than one pass through said water jacket.

23. Method as in claim 20 wherein said potable

water is for marine or vehicle use.

24. A hot water heater for heating potable water for human consumption, said heater being diesel powered and comprising a burner, an exhaust stack carrying hot exhaust emanating from said burner, a water jacket surrounding said burner for carrying potable water and being enclosed by an outer periphery and end portions on opposite ends of said burner in contact with said potable water, each of said end portions having a concave inside surface contacting said potable water in said water jacket.

25. A hot water heater as in claim 24 wherein said heater is for boats or vehicles.

26. A hot water heater as in claim 24 wherein said heater is for residential use.

27. A hot water heating system for heating potable water, said heater being diesel powered and comprising a burner, an exhaust stack carrying hot exhaust emanating from said burner, a water jacket surrounding said burner for carrying potable water and being enclosed by an

outer periphery, said exhaust stack running from said burner through said water jacket, said exhaust stack carrying said hot exhaust through said water jacket and discharging said hot exhaust from said outer periphery of said water jacket.

28. A hot water heating system as in claim 27 and further comprising a zone heater operably connected to said water jacket and located remotely from said burner of said heating system in a living environment, said potable water in said water jacket circulating through a heat exchanger operably associated with said zone heater thereby simultaneously providing hot water for the personal use of a user and providing hot water which is operably associated with said zone heater.

29. A hot water heating system as in claim 28 wherein said zone heater includes a fan for conveying hot air from said zone heater into said living environment.

30. A water level sensor in a potable water and diesel powered heater, said water level sensor producing a signal when said water within said heater is beneath a predetermined level, said signal being operable to terminate

operation of said heater.

31. Coolant heater for heating coolant and circulating said heated coolant through a boat, vehicle or other living area, said coolant heater comprising a coolant stack carrying gases from a burner, said coolant stack being located within a coolant jacket and said coolant stack terminating in an exhaust stack releasing said hot gases to the atmosphere, said coolant stack being in a configuration that allows said exhaust stack to exit said water heater at at least two exhaust stack exit locations.